

ABSTRACT OF THE DISCLOSURE

In a manufacturing method of carbon nanotubes by means of laser ablation, carbon molecules having 5-memberd carbon ring bonds (bonds of the pentagon of the fullerenes (C₆₀, C₇₀, C₇₆, etc.)) are included at least in 5 part of the laser irradiation target. By use of such laser irradiation targets, single-wall carbon nanotubes can be formed efficiently in a low temperature process of 500 °C or lower (at 400 °C, for example). Carbon molecules having curved surfaces, such as carbon molecules having fullerene bonds, are preferably used in the laser irradiation target. As 10 the carbon molecule having the fullerene bonds, a carbon molecule having a spherical surface, such as the C₆₀ molecule, is preferably used. By use of such a laser irradiation target in a laser ablation process, single-wall carbon nanotubes can be formed efficiently in a low temperature process (at 400 °C, for example). Catalysts such as Ni and Co (Ni + Co: 5 at%, 15 for example) are preferably used for the efficient formation of the single-wall carbon nanotubes. The manufacturing method can be conducted by use of simple production equipment such as a short pulse-width laser ablation apparatus, therefore, the production of the single-wall carbon nanotubes can be conducted efficiently with a low cost.